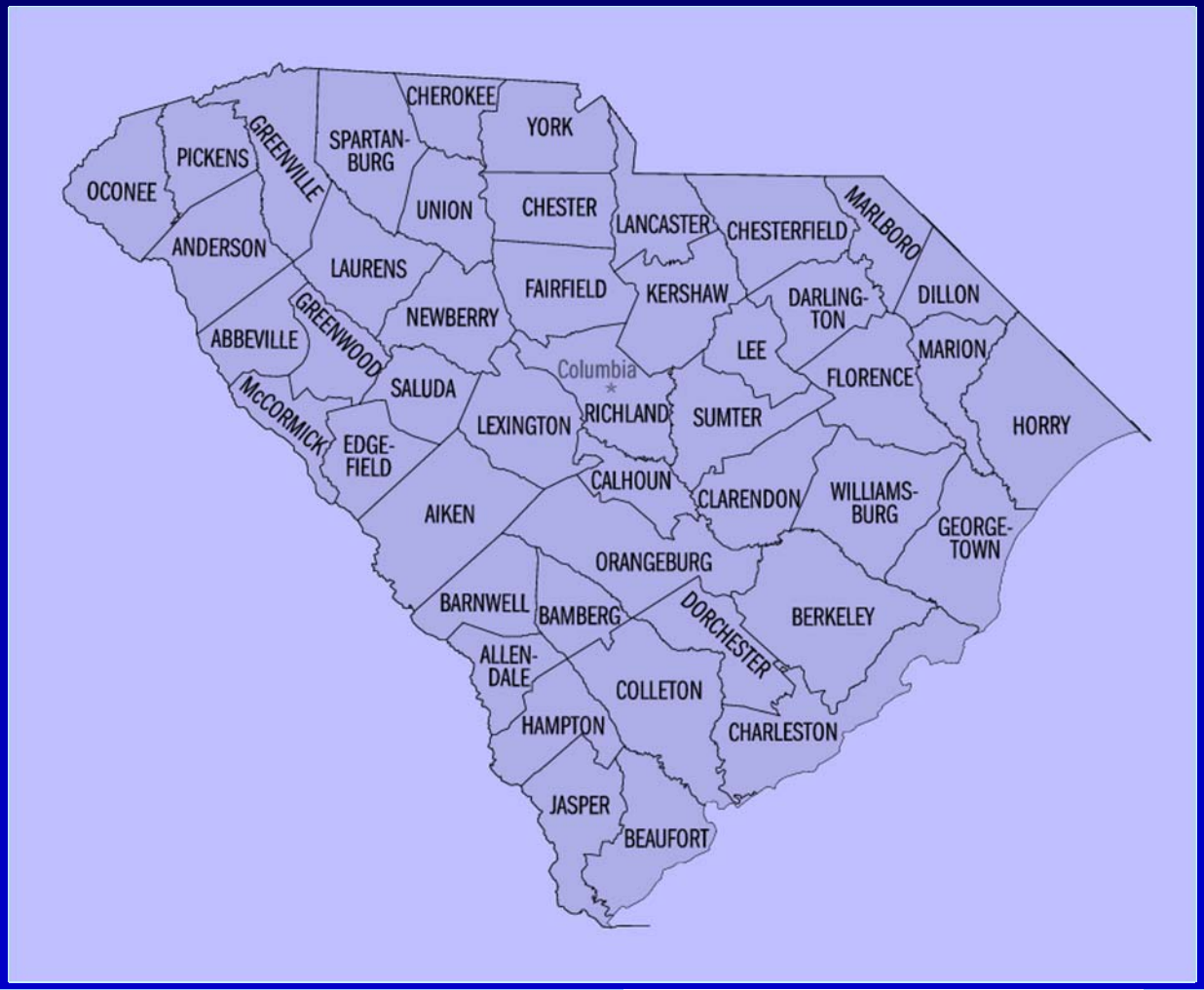
South Carolina Flood Map Modernization Project Update

Shoreline

Change

Advisory

Committee



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Map MODERNIZATION
Federal Emergency Management Agency
FEMA's Flood Hazard Mapping Program

FEMA

Project Update Items

- Background on Project
- Current Project Status
- Projected Effective Dates of Studies
- LiDAR Obtained for Studies
- Coastal Storm Surge Study
- South Carolina MapMod Nuggets

Flood Map Modernization

- *FEMA joined a Cooperating Technical Partnership with South Carolina in 1999.*

- *In 2003, we began a funding partnership to begin updating the Flood Insurance Rate Maps throughout the State*

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Current Project Status

Map Mod Funding from FEMA

Community	FY03 MONEY	FY04 MONEY	FY05 MONEY	FY06 MONEY	FY07 MONEY	TOTAL
SOUTH CAROLINA	$2,192,130	$3,145,000	$4,117,000	$3,494,000	$4,906,361	$17,854,491

FY08 Funding: $4,906,361

FY08 Maintenance Funding: $577,000

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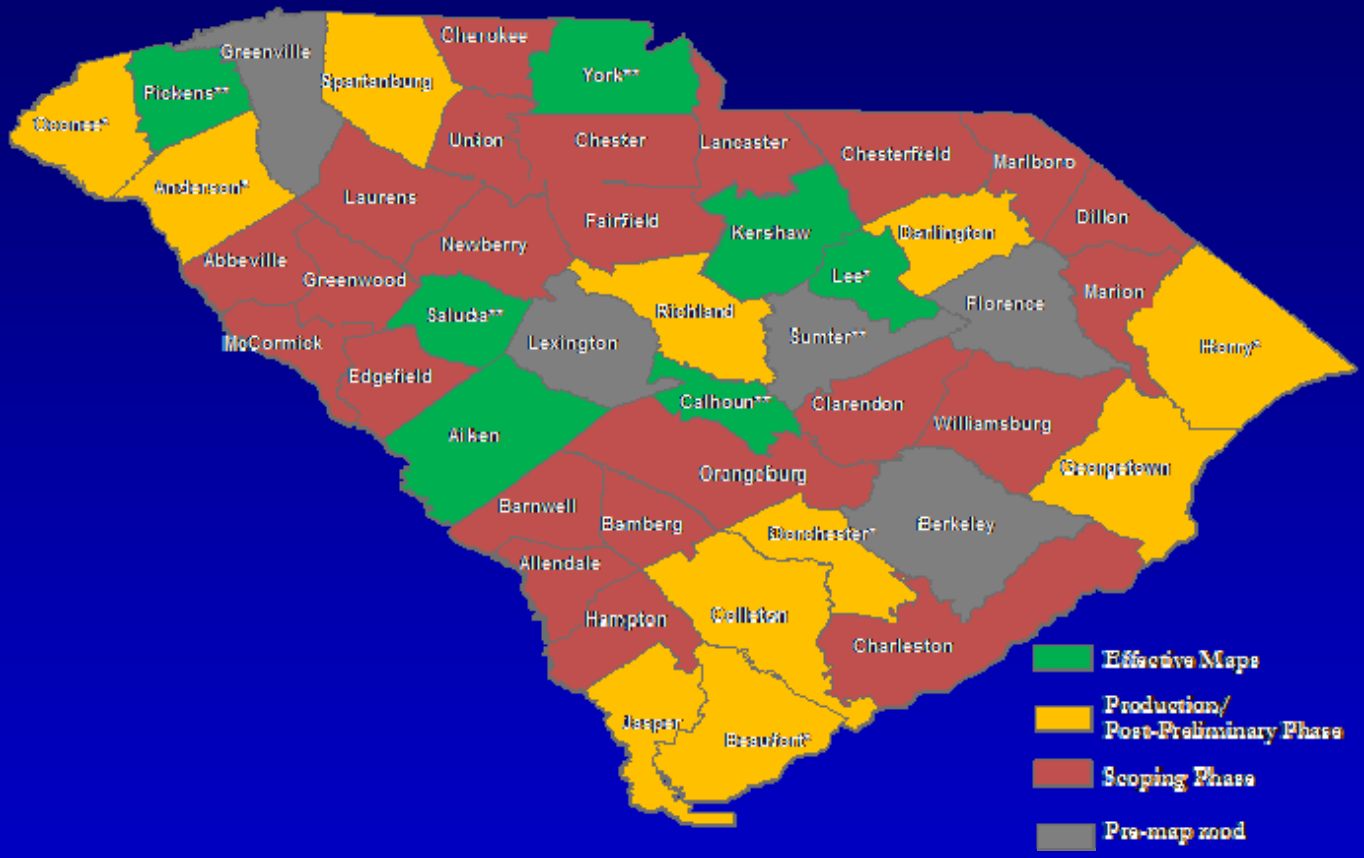
Projected Effective Dates (By Years)



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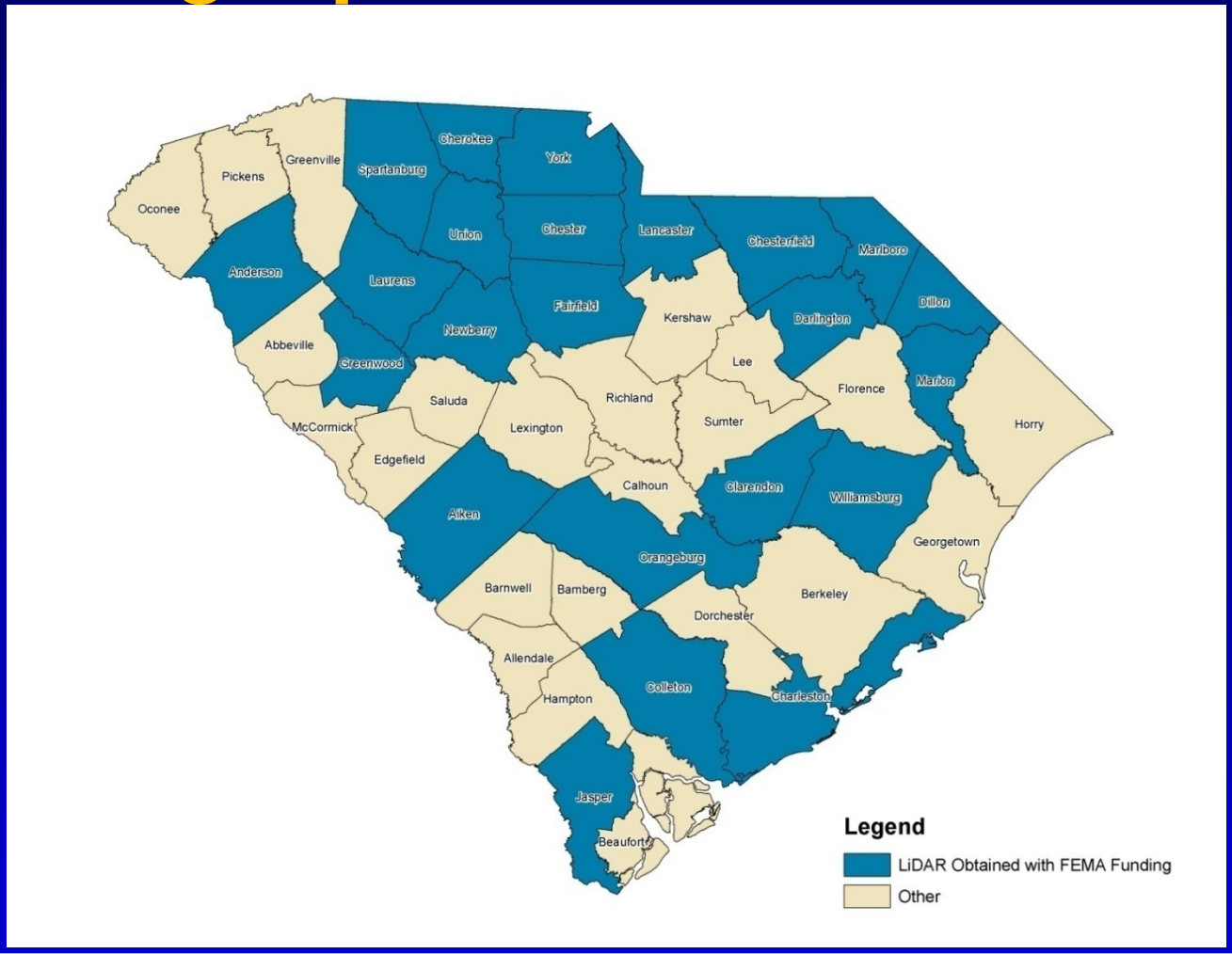
South Carolina Flood Map Modernization Project Update

LiDAR Obtained with Partnerships utilizing a portion of FEMA Funding



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South Carolina Flood Map Modernization Project Update

Coastal Storm Surge and Wave Analysis

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Hurricane Katrina

Impact

Coastal Modeling in SC

- FEMA realized a greater importance to working on updating coastal risk
- SC is among the first CTPs to try and work through the CTP relationship to update their own coastal flood risk
- NC also working to update Surge modeling on coast- SC partnering on steering committee to ensure coordination

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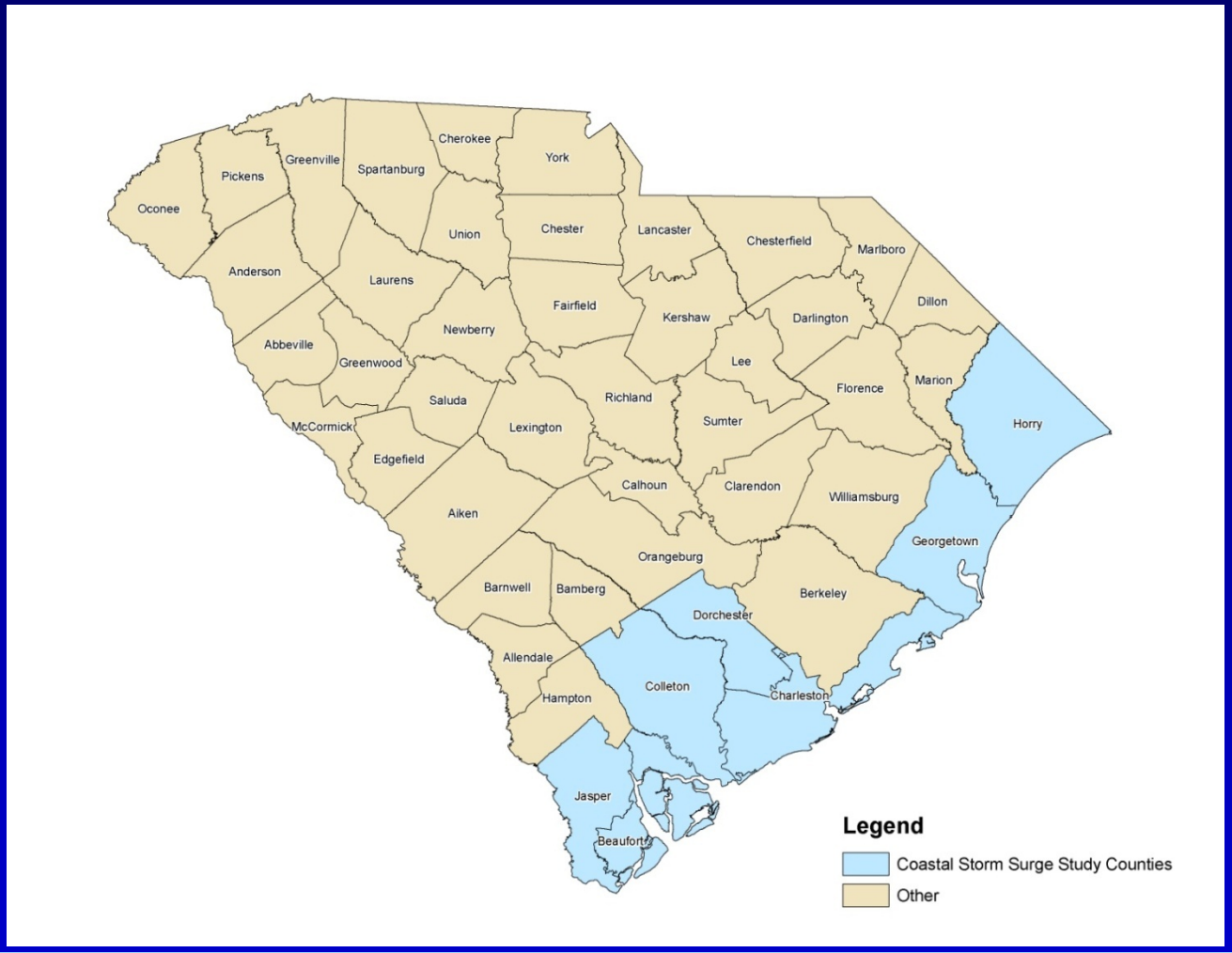
Coastal Storm Surge Study Counties



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South Carolina Flood Map Modernization Project Update

Lessons Learned in MS

FEMA updated Flood Coastal Hazards in Mississippi beginning in 2006

- Incorporating lessons learned in methodologies and techniques across the Region
- MAS Development for the First time in coastal analysis

Intensive MAS development

- FEMA and the State worked very closely to finalize a Mapping Activity Statement that best reflected the needs of the local governments, the State and FEMA
- Required several iterations
- LIDAR, bathymetry, and historical storm event research was critical
- Cost benefits by tying into other MAS funding for regular Map Mod projects

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Coastal Storm Surge Study

Storm Surge Study Project Elements

- Frequency Analysis Development
  - Statistical Method : JPM-OS
  - Storm Selections
- Grid Development
  - ADCRIC and STWAVE Grid
- Model Forcing Simulation & Validation
  - ADCRIC (Storm Surge Model)
  - STWAVE (2D Wave Analysis Model for Wave Setup)
- Productions Runs
  - Statistically analyzed results will be the storm surge elevations to be used in the coastal flood hazard analysis

Coastal Modeling Approach

Coastal Flood Hazard Analysis

- Wave Runup & Erosion Analysis
- Wave Height Analysis
- Mapping of Flood Elevations and Zones to Terrain Data

Hydrodynamic Storm Surge Modeling
- **Stillwater Elevation (ADCRIC)**
- **Wave Setup (STWAVE)**

Coastal Detailed Study

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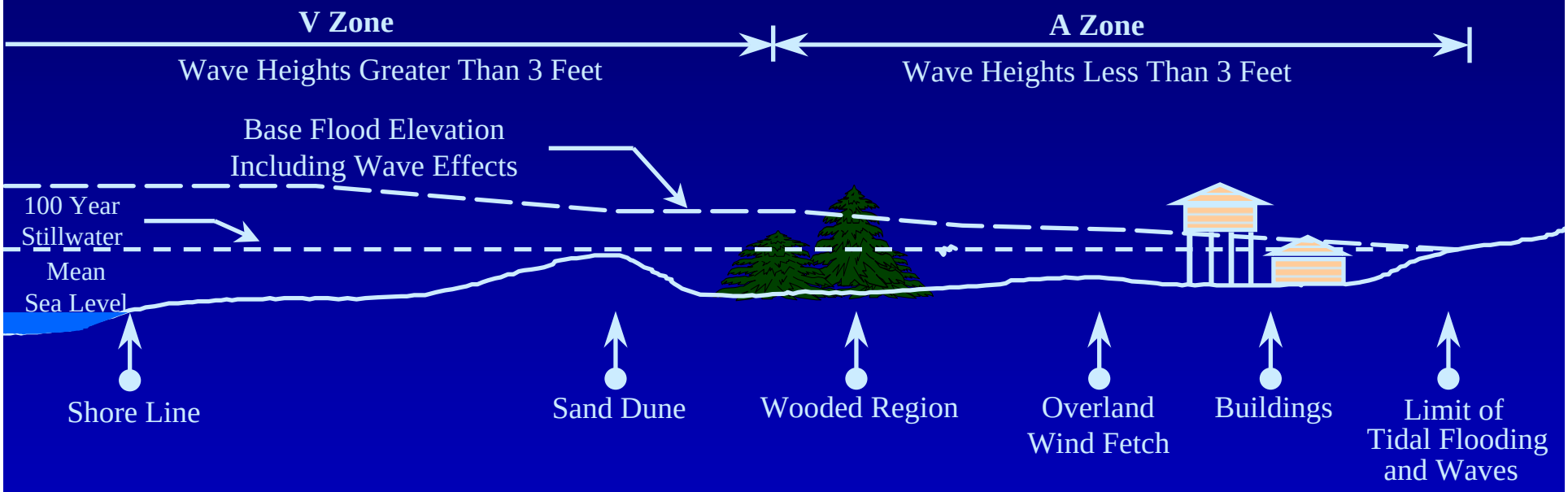
Coastal Storm Surge Study



Transect Schematic

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Status of Study

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Coastal Storm Surge Study

- South Carolina 1st CTP in Region IV to Undertake Coastal Storm Surge Study
- Study Being Performed by both of SCDNR's Contractors Working Cooperatively
- Contractors Bring Experience from the recent Gulf Coast Study to the South Carolina Study
- Storm Surge Study scheduled to be completed by February 2010.

South Carolina MapMod Nuggets

1. 8 of 46 Counties with updated Flood Maps
2. 23 of 46 Counties with new Terrain Data
3. 8 Counties provided Terrain Data for their studies
4. 31 Counties to be mapped with updated Terrain Data
5. Updated Coastal Flood Hazard Mapping for Entire Coast
6. 35 of 43 Studies Scheduled to be Effective by 09/2010
7. 45 of 46 Counties with updated Countywide Formatted DFIRMs
8. CTP Relationship with FEMA Region IV has been effective in South Carolina for MapMod
9. Cooperation in South Carolina between Federal, State and Local Government Agencies for the sake of Flood Maps

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